TELESAT LIGHTSPEED™

City quality Internet everywhere

TELESAT™

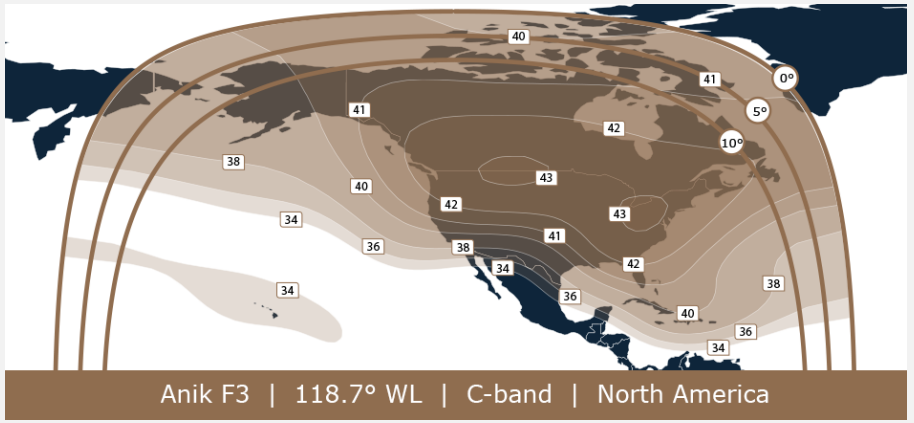
Presentation to the **Alaska Task Force for Broadband**

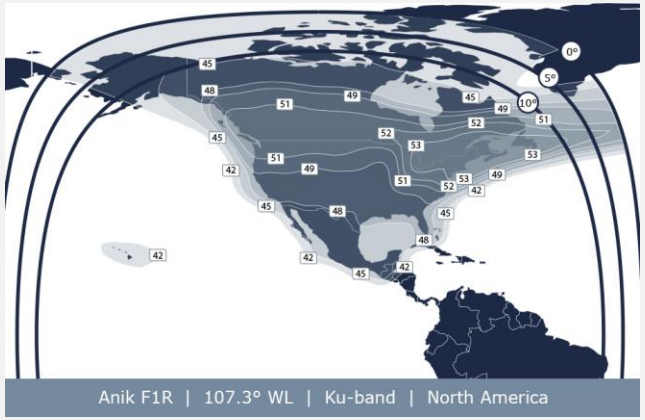
August 3rd, 2021

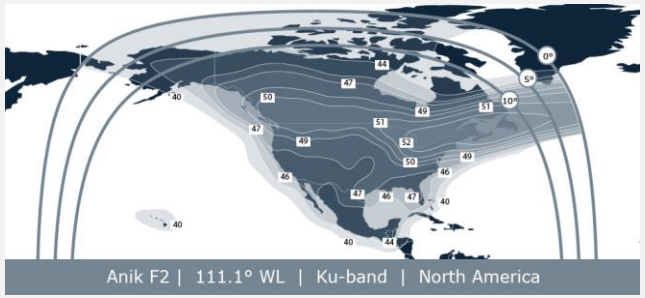
Telesat GEO Fleet today

Alaska

- Anik F3 (118.7ºW.L.)
  - C-Band: currently used for community backhaul throughout Alaska; a few transponders available (up to 100s of Mbps)
  - Ku-Band: 100s of MHz available in 2022
- Anik F1R (107.3ºW.L.)
  - Ku-Band: 100s of MHz available in both Ku-Band and C-Band
  - Coverage of Western Alaska; Requires tracking antennas starting Q4 2021
- Anik F2 (111.1ºW.L.)
  - Some available availability in both C-Band and Ku-Band
- The Anik fleet provides a bridge solution to Telesat Lightspeed LEO constellation







Telesat Lightspeed LEO Constellation – The future of Broadband

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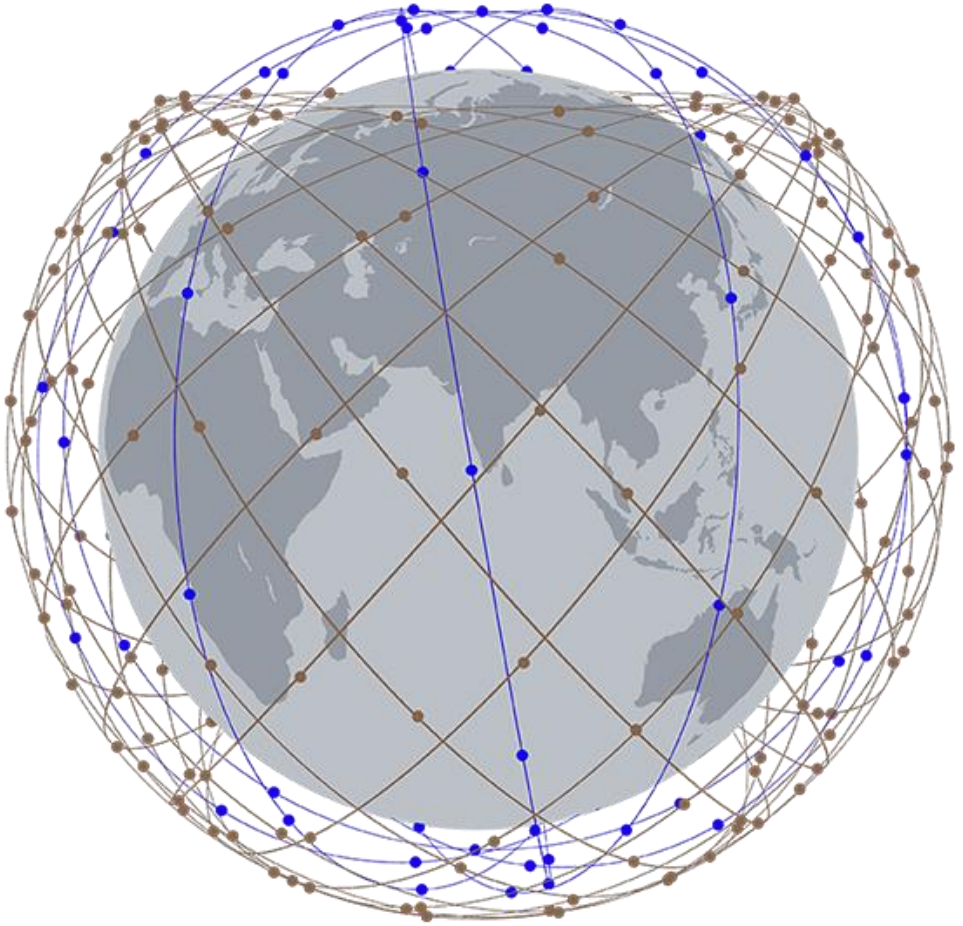
Lightspeed is a LEO satellite constellation based global network

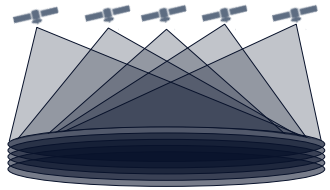
- √ 298 satellites at 1000-1325 km altitude
- √ ~135,000 agile beams
- √ 10 Gbps optical inter-satellite links
- √ Connect at major global Internet exchanges



Up to 320 Gbps of Layer 2 Carrier Ethernet grade throughput over Alaska

Preliminary Analysis

Total throughput of up to **320 Gbps** available across Alaska calculated based on a 298 satellite constellation (*)



(*) Based on 1.2m antennas uniformly distributed

New tool in the global connectivity toolkit

High Speed
Gbps links

Low Latency
sub-50 msec

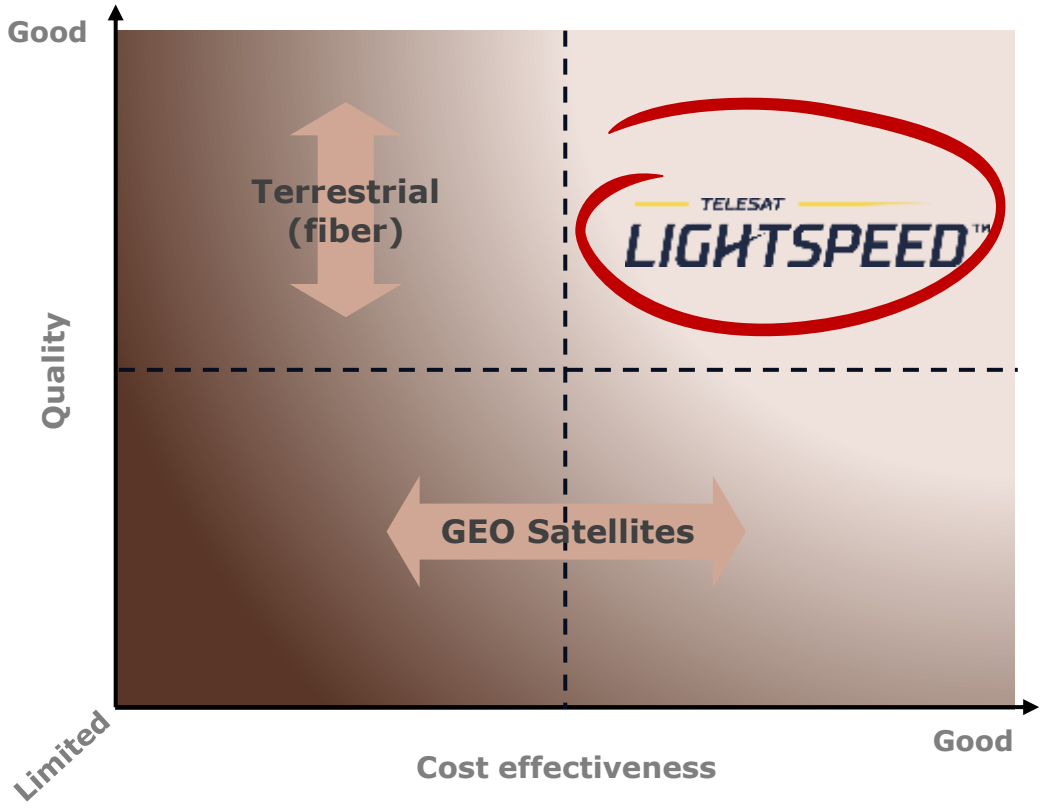
High Capacity
10s of Gbps to demand hotspots

Global
'Anywhere, Anytime'

Reliable
Unmatched Resilience, Interference resistance

Ease of use
Quick service deployments, Programmable

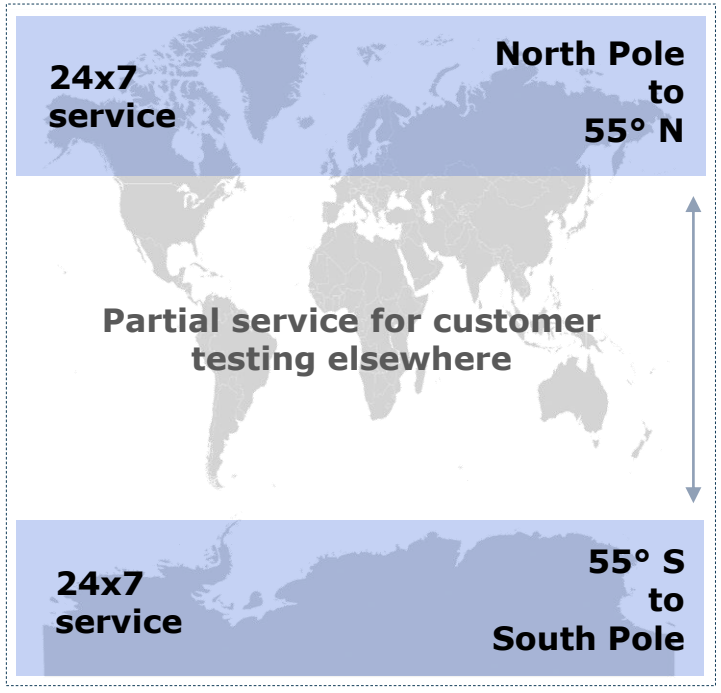
Cost Effective
Transformational economics, Efficient usage



Service Launch Timeline

Up to Q4 2023
Customer Trials

Q1 2024 Start of
High latitude service



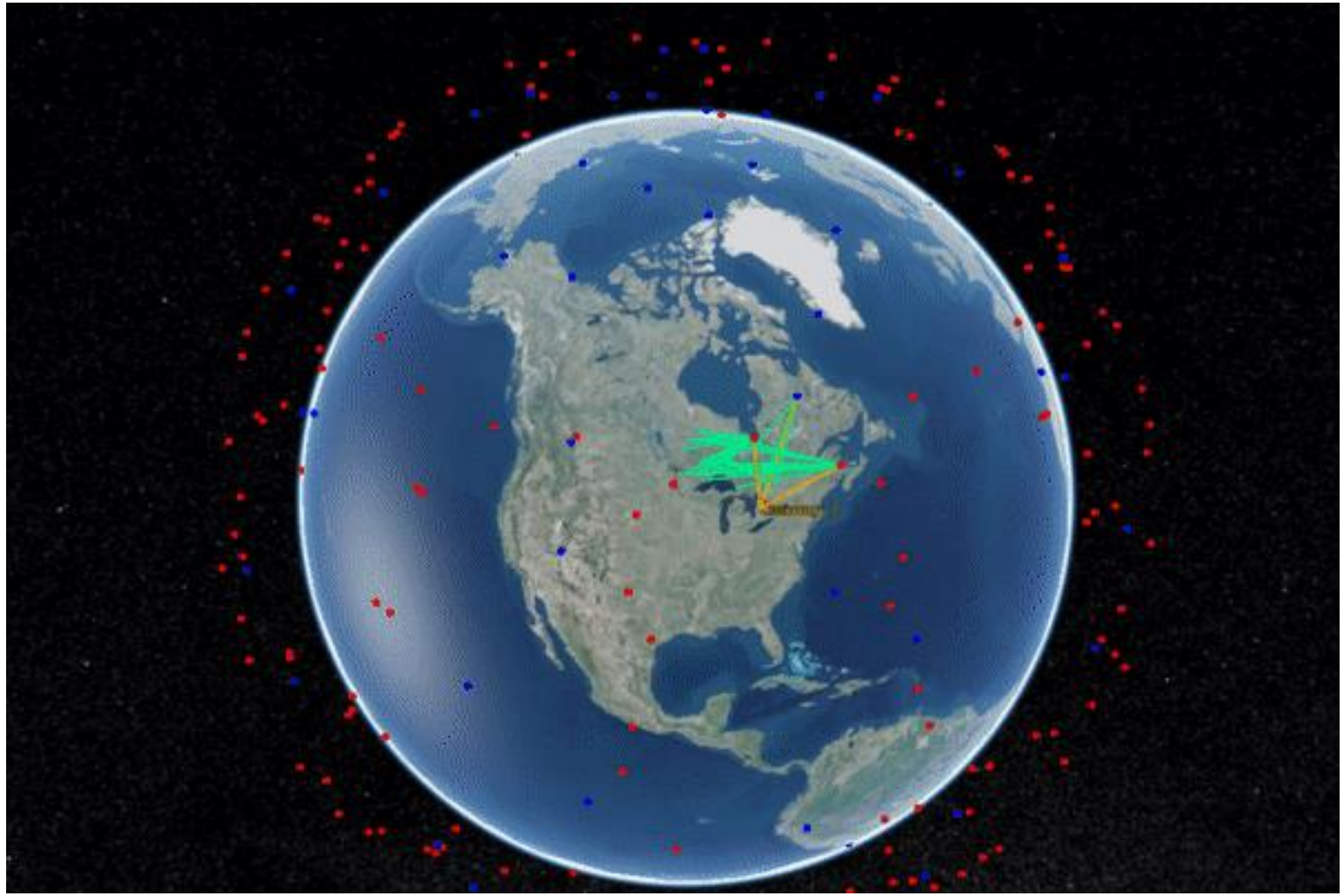
Q4 2024
Global service start

Integrated network to keep sites connected anywhere

- Polar satellites
- Inclined satellites
- Landing Station
- Remote sites

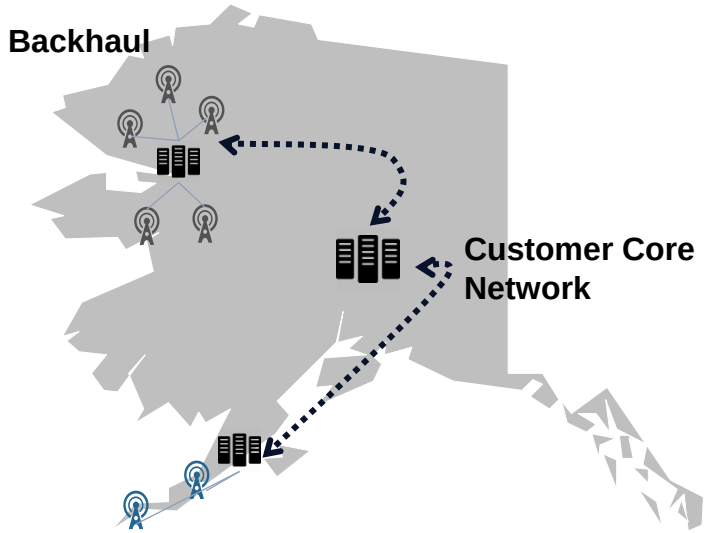
ILLUSTRATIVE USE CASE

Remote sites connected to a landing station in Ontario

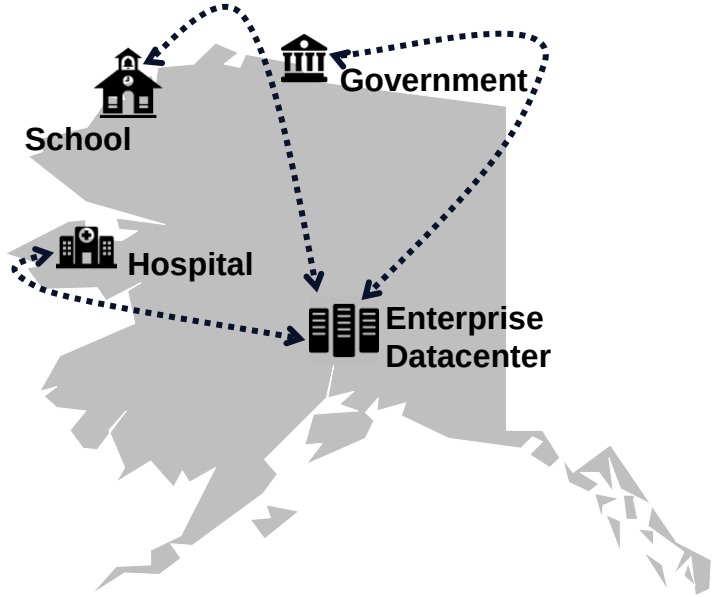


Integrated network to keep sites connected anywhere

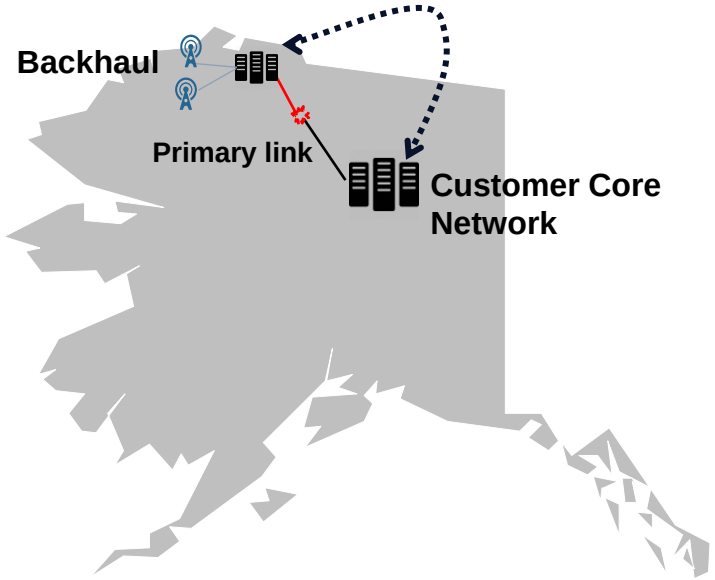
Backhaul



Remote Enterprise



Backup Services



Remote site connected via Telesat Lightspeed to Core Network

Telesat Lightspeed 'Virtual Fiber' Access

~$1B Government of Canada and Telesat LEO partnership for universal connectivity in Canada

To bring affordable, high-speed Internet connectivity via Telesat LEO to approx. 150,000 Canadians across rural and Northern areas of Canada, the **Government of Canada is making a C$600 Million contribution to Telesat LEO** in addition to an C$85M contribution through SIF in support of the R&D phase

Backhaul on Telesat LEO

Affordable Access
Cost-effective for ubiquitous coverage, more affordable than fibre and wireless alternatives for remote communities

50/10 Mbps Unlimited
High speed, true broadband experience

5G and LTE Services
Reliable, affordable and rapidly deployed wireless services

Eliminating the digital divide

Empowering Communities
Providing underserved communities with fibre quality broadband

Expanding Healthcare
Real-time access to medical specialists, electronic records and management systems

Creating Opportunities
With state-of-the-art online learning, access to government services, and the global economy

Learn more: https://www.telesat.com/news-events/government-canada-and-telesat-partner-bridge-canadas-digital-divide-through-low-earth

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